

10/509277

Serial No.: To Be Assigned
Case No.: 21071YP
Page No.: 3

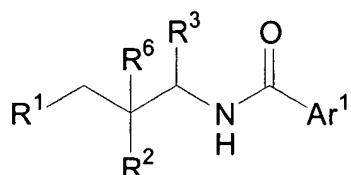
DT04 Rec'd PCT/PTO 27 SEP 2004

Amendments to the Claims

This listing of claims will replace all prior versions and listing of claims in the application.

Listing of the Claims

Claim 1 (Original): A compound of structural formula I:



(I)

or a pharmaceutically acceptable salt thereof, wherein;

R1 is selected from:

- (1) C1-10alkyl,
- (2) C3-10cycloalkyl,
- (3) cycloheteroalkyl,
- (4) aryl, and
- (5) heteroaryl,

wherein alky is optionally substituted with one, two, three or four substituents independently selected from R^a, and each cycloalkyl, cycloheteroalkyl, aryl and heteroaryl are optionally substituted on a carbon or nitrogen atom with one, two, three or four substituents independently selected from R^b;

R2 is selected from:

- (1) C3-10cycloalkyl,
- (2) cycloheteroalkyl,
- (3) aryl,
- (4) heteroaryl,
- (5) -ORD,
- (6) -NRCRD, and
- (7) -CO₂RD,

wherein each alkyl is optionally substituted with one, two, three or four substituents independently selected from R^a, and each cycloalkyl, cycloheteroalkyl, aryl and heteroaryl are optionally substituted on a carbon or nitrogen atom with one, two, three or four substituents independently selected from R^b;

R³ is selected from:

- (1) hydrogen, and
- (2) C₁₋₄alkyl,

wherein alkyl is optionally substituted with one to four substituents independently selected from R^a;

R⁶ is selected from:

- (1) hydrogen,
- (2) C₁₋₄alkyl,
- (3) C₂₋₄alkenyl,
- (4) C₂₋₄alkynyl,
- (5) -ORD,
- (6) halogen,
- (7) -CN,
- (8) -NRCRD,

wherein alkyl, alkenyl, and alkynyl are optionally substituted with one to four substituents independently selected from R^a

Ar¹ is selected from:

- (1) aryl, and
- (2) heteroaryl,

each optionally substituted on the carbon or nitrogen with one, two, or three groups independently selected from R^b;

each R^a is independently selected from:

- (1) -ORC,
- (2) -NRC_mRD,
- (3) -NO₂,
- (4) halogen,
- (5) -S(O)_mRC,
- (6) -SRC,
- (7) -S(O)₂ORC,
- (8) -S(O)_mNRCRD,
- (9) -NRCRD,
- (10) -O(CReRf)_nNRCRD,
- (11) -C(O)RC,
- (12) -CO₂RC,
- (13) -CO₂(CReRf)_nCONRCRD,
- (14) -OC(O)RC,
- (15) -CN,

- (16) $-\text{C}(\text{O})\text{NR}^c\text{R}^d$,
- (17) $-\text{NR}^c\text{C}(\text{O})\text{R}^d$,
- (18) $-\text{OC}(\text{O})\text{NR}^c\text{R}^d$,
- (19) $-\text{NR}^c\text{C}(\text{O})\text{OR}^d$,
- (20) $-\text{NR}^c\text{C}(\text{O})\text{NR}^c\text{R}^d$,
- (21) $-\text{CR}^c(\text{N}-\text{OR}^d)$,
- (22) CF_3 ,
- (23) $-\text{OCF}_3$,
- (24) $\text{C}_3\text{-}8\text{cycloalkyl}$,
- (25) cycloheteroalkyl , and
- (26) oxo ;

each R^b is independently selected from:

- (1) R^a ,
- (2) $\text{C}_{1\text{-}10}\text{alkyl}$,
- (3) $\text{C}_3\text{-}8\text{cycloalkyl}$,
- (4) cycloheteroalkyl ,
- (5) aryl ,
- (6) $\text{arylC}_{1\text{-}4}\text{alkyl}$,
- (7) heteroaryl , and
- (8) $\text{heteroarylC}_{1\text{-}4}\text{alkyl}$,

wherein alkyl, cycloalkyl, cycloheteroalkyl, and heteroaryl are optionally substituted with oxo , and wherein aryl and heteroaryl are optionally substituted with $-\text{OR}^c$, $-\text{NR}^c\text{R}^d$, or $-\text{C}(\text{O})\text{R}^c$;

R^c and R^d are independently selected from:

- (1) hydrogen,
- (2) $\text{C}_{1\text{-}10}\text{alkyl}$,
- (3) $\text{C}_{2\text{-}10}\text{alkenyl}$,
- (4) $\text{C}_{2\text{-}10}\text{alkynyl}$,
- (5) cycloalkyl ,
- (6) $\text{cycloalkyl-C}_{1\text{-}10}\text{alkyl}$,
- (7) cycloheteroalkyl ,
- (8) $\text{cycloheteroalkyl-C}_{1\text{-}10}\text{alkyl}$;
- (9) aryl ,
- (10) heteroaryl ,
- (11) $\text{aryl-C}_{1\text{-}10}\text{alkyl}$, and
- (12) $\text{heteroaryl-C}_{1\text{-}10}\text{alkyl}$, or

R^c and R^d together with the atom(s) to which they are attached form a heterocyclic ring of 4 to 7 members containing 0-2 additional heteroatoms independently selected from oxygen, sulfur and N- Rg , or two $-OR^c$ groups together with the atom(s) to which they are attached form a heterocyclic ring of 4 to 7 members containing 0-2 additional heteroatoms independently selected from oxygen, sulfur and N- Rg ,

each R^c and R^d may be unsubstituted or substituted with one to three substituents selected from R^h ; R^e and R^f are independently selected from:

- (1) hydrogen,
- (2) C_{1-10} alkyl,
- (3) C_{2-10} alkenyl,
- (4) C_{2-10} alkynyl,
- (5) cycloalkyl,
- (6) cycloalkyl- C_{1-10} alkyl,
- (7) cycloheteroalkyl,
- (8) cycloheteroalkyl- C_{1-10} alkyl,
- (9) aryl,
- (10) heteroaryl,
- (11) aryl C_{1-10} alkyl, and
- (12) heteroaryl C_{1-10} alkyl, or

R^e and R^f together with the carbon to which they are attached form a ring of 5 to 7 members containing 0-2 heteroatoms independently selected from oxygen, sulfur and nitrogen;

each R^g is independently selected from

- (1) C_{1-10} alkyl,
- (2) C_{3-8} cycloalkyl,
- (3) cycloheteroalkyl,
- (4) aryl,
- (5) aryl C_{1-4} alkyl,
- (6) heteroaryl,
- (7) heteroaryl C_{1-4} alkyl,
- (8) $-S(O)_m R^e$,
- (9) $-C(O)R^e$,
- (10) $-CO_2R^e$,
- (11) $-CO_2(CR^eR^f)_n CONR^eR^f$, and
- (12) $-C(O)N R^e R^f$;

each R^h is independently selected from:

- (1) C_{1-10} alkyl,
- (2) C_{3-8} cycloalkyl,

10/509277

Serial No.: To Be Assigned
Case No.: 21071YP
Page No.: 7

DT04 Rec'd PCT/PTO 27 SEP 2004

- (3) cycloheteroalkyl,
- (4) aryl,
- (5) arylC₁₋₄alkyl,
- (6) heteroaryl,
- (7) heteroarylC₁₋₄alkyl,
- (8) -ORE^e,
- (9) -NRE^eS(O)_mR^f,
- (10) -S(O)_mR^e,
- (11) -SRE^e,
- (12) -S(O)₂ORE^e,
- (13) -S(O)_mNRE^eR^f,
- (14) -NRE^eR^f,
- (15) -O(CRE^eR^f)_nNRE^eR^f,
- (16) -C(O)RE^e,
- (17) -CO₂RE^e,
- (18) -CO₂(CRE^eR^f)_nCONRE^eR^f,
- (19) -OC(O)RE^e,
- (20) -CN,
- (21) -C(O)NRE^eR^f,
- (22) -NRE^eC(O)R^f,
- (23) -OC(O)NRE^eR^f,
- (24) -NRE^eC(O)OR^f,
- (25) -NRE^eC(O)NRE^eR^f,
- (26) CF₃, and
- (27) -OCF₃,

m is selected from 1 and 2; and

n is selected from 1, 2, and 3;

provided that when R¹ is phenyl, naphthyl, or heteroaryl, R² is phenyl and R³ is hydrogen, then Ar¹ is not unsubstituted phenyl and is not mono, di or tri- substituted phenyl with an R^b substituent selected from the group consisting of halogen, hydroxy, -C₁₋₆alkyl, phenyl, -CN, -NO₂, -CO₂H, -C(O)C₁₋₆alkyl, -CO₂C₁₋₆alkyl, -C(O)NH₂, -C(O)NH-heterocycloalkyl, -NH₂, -NH-heterocycloalkyl, furanyl, dihydrofuranyl, pyrrolidyl, dihydropyrrolidyl, and 1,3-dioxolan; and

provided that when R¹ is aryl, monosubstituted with halogen, -OCH₃ or -CH₃ or optionally di-substituted with halogen, R² is aryl, optionally mono- or di- substituted with halogen, and R³ is hydrogen, then Ar¹ is not unsubstituted 4-pyridinyl; and

provided that when R¹ and R² are unsubstituted aryl or unsubstituted heteroaryl, and R³ is hydrogen or C 1-4 alkyl, then Ar¹ is substituted with at least one R^b substituent; and

provided that when R¹ is selected from the group consisting of unsubstituted phenyl, *para*-chlorophenyl or *para*-methoxy phenyl, R² is unsubstituted phenyl, and R³ is -CH₃, then Ar¹ is not unsubstituted phenyl, *ortho*-CO₂H monosubstituted phenyl, or 3,4-dimethoxy phenyl.

Claim 2 (Original): The compound according to Claim 1 wherein:
R¹ is selected from:

- (1) C₁₋₁₀alkyl,
- (2) C₃₋₁₀cycloalkyl,
- (3) cycloheteroalkyl,
- (4) aryl, and
- (5) heteroaryl,

wherein alky is optionally substituted with one, two, three or four substituents independently selected from R^a, and each cycloalkyl, cycloheteroalkyl, aryl and heteroaryl are optionally substituted with one, two, three or four substituents independently selected from R^b;

R² is selected from:

- (1) C₃₋₁₀cycloalkyl,
- (2) cycloheteroalkyl,
- (3) aryl,
- (4) heteroaryl,
- (5) -ORD,
- (6) -NRC_aR^d, and
- (7) -CO₂R^d,

wherein each alkyl is optionally substituted with one, two, three or four substituents independently selected from R^a, and each cycloalkyl, and cycloheteroalkyl aryl and heteroaryl are optionally substituted with one, two, three or four substituents independently selected from R^b;

or a pharmaceutically acceptable salt thereof.

Claim 3 (Original): The compound according to Claim 2 wherein:

Ar¹ is selected from:

- (1) phenyl,
- (2) naphthyl,
- (3) thienyl,
- (4) furanyl,
- (5) pyrrolyl,
- (6) oxazolyl,
- (7) isoxazolyl,
- (8) 1,2,5-oxadiazolyl,
- (9) 1,2,5-thiadiazolyl,
- (10) thiazolyl,
- (11) pyrazolyl,
- (12) triazolyl,
- (13) tetrazolyl,
- (14) benzothienyl,
- (15) benzofuranyl,
- (16) benzoxazolyl,
- (17) benzimidazolyl,
- (18) benzothiazolyl,
- (19) indanyl,
- (20) indenyl,
- (21) indolyl,
- (22) imidazo[1,2-a]pyridinyl,
- (23) β -carbolinyl,
- (24) 5,6,7,8-tetrahydro- β -carbolinyl,
- (25) tetrahydronaphthyl,
- (26) 4,5,6,7-tetrahydroindazolyl,
- (27) 2,3-dihydrobenzofuranyl,
- (28) dihydrobenzopyranyl,
- (29) 1,4-benzodioxanyl,
- (30) pyridinyl,
- (31) pyrimidinyl,
- (32) pyrazinyl,
- (33) quinolinyl,
- (34) isoquinolinyl,
- (35) quinazolonyl,
- (36) quinazolinyl,

- (37) 1,8-naphthyridinyl,
- (38) 1,2,3,4-tetrahydro-1,8-naphthyridinyl,
- (39) pyrido[3,2-b]pyridinyl,
- (40) pyrazolo[2,3-a]pyrimidinyl,
- (41) pyrido[1,2-a]pyrimidinyl,
- (42) pyrido[1,2-a]pyrimidonyl,
- (43) benzopyrimidinyl,
- (44) imidazolyl, and
- (45) imidazolonyl,

each optionally substituted with one, two, or three groups independently selected from R^b;
or a pharmaceutically acceptable salt thereof.

Claim 4 (Original): The compound according to Claim 3 wherein:
R³ is C₁₋₄alkyl, optionally substituted with one to four substituents independently selected from R^a;
R⁶ is selected from:

- (1) hydrogen,
- (2) methyl,
- (3) hydroxyl,
- (4) halogen, and
- (5) -CN,

wherein methyl is optionally substituted with one to three R^a substituents;

Ar¹ is selected from:

- (1) phenyl,
- (2) naphthyl,
- (3) thiienyl,
- (4) isoxazolyl,
- (5) 1,2,5-oxadiazolyl,
- (6) thiazolyl,
- (7) pyrazolyl,
- (8) triazolyl,
- (9) tetrazolyl,
- (10) benzofuranyl,
- (11) benzoxazolyl,
- (12) benzimidazolyl,
- (13) benzothiazolyl,
- (14) imidazo[1,2-a]pyridinyl,
- (15) 5,6,7,8-tetrahydro- β -carbolinyl,

- (16) 4,5,6,7-tetrahydroindazolyl,
- (17) pyridinyl,
- (18) pyrimidinyl,
- (19) pyrazinyl,
- (20) quinolinyl,
- (21) isoquinolinyl,
- (22) quinazolonyl,
- (23) quinazolinyl,
- (24) 1,8-naphthyridinyl,
- (25) 1,2,3,4-tetrahydro-1,8-naphthyridinyl,
- (26) pyrido[3,2-b]pyridinyl,
- (27) pyrazolo[2,3-a]pyrimidinyl,
- (28) pyrido[1,2-a]pyrimidinyl,
- (29) pyrido[1,2-a]pyrimidonyl,
- (30) benzopyrimidinyl,
- (31) imidazolyl, and
- (32) imidazolonyl,

each optionally substituted with one, two, or three groups independently selected from R^b;
each R^a is independently selected from:

- (1) -OR^c,
- (2) halogen,
- (3) -S(O)_mR^c,
- (4) -SRC^c,
- (5) -S(O)₂OR^c,
- (6) -S(O)_mNR^cR^d,
- (7) -NRC^cR^d,
- (8) -C(O)R^c,
- (9) -CO₂R^c,
- (10) -CN,
- (11) -C(O)NR^cR^d,
- (12) CF₃,
- (13) -OCF₃,
- (14) C₃₋₈cycloalkyl,
- (15) cycloheteroalkyl, and
- (16) oxo;

each R^b is independently selected from:

- (1) R^a,

- (2) C₁₋₁₀alkyl,
- (3) cycloheteroalkyl,
- (4) aryl,
- (5) arylC₁₋₄alkyl,
- (6) heteroaryl, and
- (7) heteroarylC₁₋₄alkyl,

wherein alkyl, cycloalkyl, cycloheteroalkyl, heteroaryl are optionally substituted with oxo, and wherein aryl and heteroaryl are optionally substituted with -OR^c, NR^cR^d, or -C(O)R^c; R^c and R^d are independently selected from:

- (1) hydrogen,
- (2) C₁₋₁₀alkyl,
- (3) cycloalkyl,
- (4) cycloheteroalkyl,
- (5) aryl,
- (6) heteroaryl, or

R^c and R^d together with the atom(s) to which they are attached form a heterocyclic ring of 4 to 7 members containing 0-2 additional heteroatoms independently selected from oxygen, sulfur and N-R_g, or two -OR^c groups together with the atom(s) to which they are attached form a heterocyclic ring of 4 to 7 members containing 0-2 additional heteroatoms independently selected from oxygen, sulfur and N-R_g,

each R^c and R^d may be unsubstituted or substituted with one to three substituents selected from R^h; or a pharmaceutically acceptable salt thereof.

Claim 5 (Original): The compound according to Claim 4 wherein:
R¹ and R² are independently selected from:

- (1) phenyl, and
- (2) pyridyl,

each optionally substituted with one to four substituents independently selected from R^b; R³ is C₁₋₄alkyl, wherein alkyl is optionally substituted with one to four substituents independently selected from R^a;

R⁶ is selected from:

- (1) hydrogen,
- (2) methyl,
- (3) hydroxyl,
- (4) halogen, and
- (5) -CN;

each R^a is independently selected from:

- (1) -OR^c,
- (2) halogen,
- (3) -S(O)_mR^c,
- (4) -NRCR^d,
- (5) -C(O)R^c,
- (6) -CO₂R^c, and
- (7) oxo;

or a pharmaceutically acceptable salt thereof.

Claim 6 (Original): The compound according to Claim 5 wherein:
R¹ and R² are independently selected from:

- (1) phenyl,
- (2) 4-fluorophenyl,
- (3) 2-chlorophenyl,
- (4) 3-chlorophenyl,
- (5) 4-chlorophenyl,
- (6) 4-cyanophenyl,
- (7) 4-methylphenyl,
- (8) 4-isopropylphenyl,
- (9) 4-biphenyl,
- (10) 4-bromophenyl,
- (11) 4-iodophenyl,
- (12) 2,4-dichlorophenyl, and
- (13) 2-chloro-4-fluorophenyl;

or a pharmaceutically acceptable salt thereof.

Claim 7 (Original): The compound according to Claim 6 wherein:
R¹ and R² are independently selected from phenyl and 4-chlorophenyl;
R³ is methyl, wherein methyl is optionally substituted with one to three substituents independently selected from R^a;
or a pharmaceutically acceptable salt thereof.

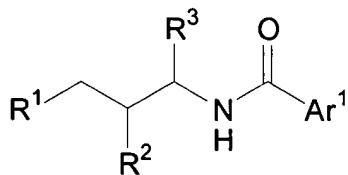
Claim 8 (Original): A compound selected from:

- (1) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzofuran-2-carboxamide;
- (2) N-[2,3-bis(4-chlorophenyl)-1-methylpropyl]-3-chloro-2-naphthamide;
- (3) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-isoxazole-5-carboxamide;
- (4) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-pyrido[3,2-b]pyridine-2-carboxamide;
- (5) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-pyrazole-3-carboxamide;

- (6) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-thiazole-5-carboxamide;
- (7) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-nicotinamide;
- (8) 2-(1-tetrazolyl)-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
- (9) 3-(1-tetrazolyl)-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
- (10) 4-(1-tetrazolyl)-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
- (11) 5-methyl-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-thiazole-4-carboxamide;
- (12) 2-phenyl-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
- (13) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-pyrazine-2-carboxamide;
- (14) 3-(1-(3,5-dimethyl-pyrazolyl))-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
- (15) 4-(1-(pyrrolidin-2-one))-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
- (16) 3-(1-(imidazolidin-2-one))-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
- (17) 4-phenyl-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
- (18) 6-bromo-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-picolinamide;
- (19) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-isonicotinamide;
- (20) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-picolinamide;
- (21) 4-methyl-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-1,2,5-oxadiazole-3-carboxamide;
- (22) 3-(1-(pyrrolidin-2-one))-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
- (23) 2-bromo-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-isonicotinamide;
- (24) 3-phenyl-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
- (25) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-pyrimidine-4-carboxamide;
- (26) 4-(1-pyrazolyl)-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
- (27) 2-(1-pyrazolyl)-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
- (28) 5,6,7,8-tetrahydro-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-carbazole-3-carboxamide;
- (29) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-1H-quinazolin-2-one-4-carboxamide;
- (30) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzoxazole-2-carboxamide;
- (31) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-pyrazolo[2,3-a]pyrimidine-6-carboxamide;
- (32) 2,4-dimethyl-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-pyrazolo[2,3-a]pyrimidine-6-carboxamide;
- (33) 4-(1-piperidinyl)-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
- (34) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-pyrimidine-5-carboxamide;
- (35) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-pyrido(1,2-a)pyrimidine-4-one-5-carboxamide;
- (36) 4,5,6,7-tetrahydro-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-indazole-3-carboxamide;
- (37) 5-fluoro-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzimidazole-2-carboxamide;
- (38) 5-phenyl-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-pyrazole-3-carboxamide;
- (39) 1,2,3,4-tetrahydro-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-1,8-naphthyridine-7-carboxamide;
- (40) 1-methyl-3-ethyl-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-pyrazole-5-carboxamide;

(41) 1-methyl-3-propyl-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-pyrazole-5-carboxamide;
(42) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-quinoline-5-carboxamide;
(43) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-imidazo(1,2-a)pyridine-2-carboxamide;
(44) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-quinoline-4-carboxamide;
(45) 4-bromo-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-nicotinamide;
(46) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-isoquinoline-8-carboxamide;
(47) 3-bromo-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-picolinamide;
(48) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-isoquinoline-5-carboxamide;
(49) 4-(2-formyl-phenyl)-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
(50) 4-(2-hydroxymethyl-phenyl)-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
(51) 4-(2-aminophenyl)-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
(52) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-2(3H)-imidazolone-4-carboxamide;
(53) 3-(1-tetrazolyl)-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-isonicotinamide;
(54) 3,4-(ethylenedioxy)-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-thiophene-2-carboxamide;
(55) 1-isopropyl-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-pyrazole-4-carboxamide;
(56) 5-bromo-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-picolinamide;
(57) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-1,8-naphthyridine-2-carboxamide;
(58) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzothiazole-2-carboxamide;
(59) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzimidazole-2-carboxamide;
(60) 5-chloro-2-(2-(1-pyrrolyl)ethyl)-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
(61) 2-(2-phenylethyl)-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
(62) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-naphthylene-2-carboxamide;
(63) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-quinoline-5-carboxamide;
(64) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-naphthylene-1-carboxamide;
(65) N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
(66) 2-chloro-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
(67) 3-chloro-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
(68) 4-chloro-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-benzamide;
(69) 3,5-dichloro-N-(2,3-bis(4-chlorophenyl)-1-methylpropyl)-isonicotinamide;
(70) *N*-[2-(3-pyridyl)-3-(4-chlorophenyl)-1-methylpropyl]-benzamide;
(71) *N*-[2-(2-pyridyl)-3-(4-chlorophenyl)-1-methylpropyl]-benzamide;
(72) *N*-[2-(4-pyridyl)-3-(4-chlorophenyl)-1-methylpropyl]-benzamide; and
(73) *N*-[3-(3-chloro-2-pyridyl)-2-phenyl-1-methylpropyl]-benzamide;
or a pharmaceutically acceptable salt thereof.

Claim 9 (Original): A compound of structural formula IA:



(IA)

or a pharmaceutically acceptable salt thereof, wherein;

R¹ is selected from:

- (1) aryl, and
- (2) heteroaryl,

wherein aryl and heteroaryl are optionally substituted on the carbon or nitrogen with one to four substituents independently selected from R^b;

R² is selected from:

- (1) aryl, and
- (2) heteroaryl,

wherein aryl and heteroaryl are optionally substituted on the carbon or nitrogen with one to four substituents independently selected from R^b;

R³ is selected from:

- (1) hydrogen, and
- (2) C₁₋₄alkyl,

wherein alkyl is optionally substituted with one to four substituents independently selected from R^a;

Ar¹ is selected from:

- (1) aryl, and
- (2) heteroaryl,

each optionally substituted on the carbon or nitrogen with one, two, or three groups independently selected from R^b;

each R^a is independently selected from:

- (1) -OR^c,
- (2) -NRC^cS(O)_mR^d,
- (3) -NO₂,
- (4) halogen,
- (5) -S(O)_mR^c,
- (6) -SRC^c,
- (7) -S(O)₂OR^c,
- (8) -S(O)_mNRC^cR^d,

- (9) $-\text{NR}^c\text{R}^d$,
- (10) $-\text{O}(\text{CR}^e\text{R}^f)_n\text{NR}^c\text{R}^d$,
- (11) $-\text{C}(\text{O})\text{R}^c$,
- (12) $-\text{CO}_2\text{R}^c$,
- (13) $-\text{CO}_2(\text{CR}^e\text{R}^f)_n\text{CONR}^c\text{R}^d$,
- (14) $-\text{OC}(\text{O})\text{R}^c$,
- (15) $-\text{CN}$,
- (16) $-\text{C}(\text{O})\text{NR}^c\text{R}^d$,
- (17) $-\text{NR}^c\text{C}(\text{O})\text{R}^d$,
- (18) $-\text{OC}(\text{O})\text{NR}^c\text{R}^d$,
- (19) $-\text{NR}^c\text{C}(\text{O})\text{OR}^d$,
- (20) $-\text{NR}^c\text{C}(\text{O})\text{NR}^c\text{R}^d$,
- (21) $-\text{CR}^c(\text{N}-\text{OR}^d)$,
- (22) CF_3 ,
- (23) $-\text{OCF}_3$,
- (24) $\text{C}_3\text{-}8\text{cycloalkyl}$,
- (25) cycloheteroalkyl , and
- (26) oxo ;

each R^b is independently selected from:

- (1) R^a ,
- (2) $\text{C}_{1-10}\text{alkyl}$,
- (3) $\text{C}_3\text{-}8\text{cycloalkyl}$,
- (4) cycloheteroalkyl ,
- (5) aryl ,
- (6) $\text{arylC}_{1-4}\text{alkyl}$,
- (7) heteroaryl , and
- (8) $\text{heteroarylC}_{1-4}\text{alkyl}$,

wherein alkyl, cycloalkyl, cycloheteroalkyl, and heteroaryl are optionally substituted with oxo , and wherein aryl and heteroaryl are optionally substituted with $-\text{OR}^c$, NR^cR^d , or $-\text{C}(\text{O})\text{R}^c$;

R^c and R^d are independently selected from:

- (1) hydrogen,
- (2) $\text{C}_{1-10}\text{alkyl}$,
- (3) $\text{C}_{2-10}\text{alkenyl}$,
- (4) $\text{C}_{2-10}\text{alkynyl}$,
- (5) cycloalkyl ,
- (6) $\text{cycloalkyl-C}_{1-10}\text{alkyl}$,

- (7) cycloheteroalkyl,
- (8) cycloheteroalkyl-C₁₋₁₀alkyl;
- (9) aryl,
- (10) heteroaryl,
- (11) aryl-C₁₋₁₀alkyl, and
- (12) heteroaryl-C₁₋₁₀alkyl, or

R^c and R^d together with the atom(s) to which they are attached form a heterocyclic ring of 4 to 7 members containing 0-2 additional heteroatoms independently selected from oxygen, sulfur and N-R_g, or two -OR^c groups together with the atom(s) to which they are attached form a heterocyclic ring of 4 to 7 members containing 0-2 additional heteroatoms independently selected from oxygen, sulfur and N-R_g,

each R^c and R^d may be unsubstituted or substituted with one to three substituents selected from R^h; R^e and R^f are independently selected from:

- (1) hydrogen,
- (2) C₁₋₁₀alkyl,
- (3) C₂₋₁₀alkenyl,
- (4) C₂₋₁₀alkynyl,
- (5) cycloalkyl,
- (6) cycloalkyl-C₁₋₁₀alkyl,
- (7) cycloheteroalkyl,
- (8) cycloheteroalkyl-C₁₋₁₀alkyl,
- (9) aryl,
- (10) heteroaryl,
- (11) arylC₁₋₁₀alkyl, and
- (12) heteroarylC₁₋₁₀alkyl, or

R^e and R^f together with the carbon to which they are attached form a ring of 5 to 7 members containing 0-2 heteroatoms independently selected from oxygen, sulfur and nitrogen; each R_g is independently selected from

- (1) C₁₋₁₀alkyl,
- (2) C₃₋₈cycloalkyl,
- (3) cycloheteroalkyl,
- (4) aryl,
- (5) arylC₁₋₄alkyl,
- (6) heteroaryl,
- (7) heteroarylC₁₋₄alkyl,
- (8) -S(O)_mR^e,
- (9) -C(O)R^e,

- (10) $-\text{CO}_2\text{R}^e$,
- (11) $-\text{CO}_2(\text{CR}^e\text{R}^f)_n\text{CONR}^e\text{R}^f$, and
- (12) $-\text{C}(\text{O})\text{N}\text{R}^e\text{R}^f$;

each R^h is independently selected from:

- (1) $\text{C}_{1-10}\text{alkyl}$,
- (2) $\text{C}_{3-8}\text{cycloalkyl}$,
- (3) cycloheteroalkyl,
- (4) aryl,
- (5) aryl C_{1-4} alkyl,
- (6) heteroaryl,
- (7) heteroaryl C_{1-4} alkyl,
- (8) $-\text{OR}^e$,
- (9) $-\text{N}\text{R}^e\text{S}(\text{O})_m\text{R}^f$,
- (10) $-\text{S}(\text{O})_m\text{R}^e$,
- (11) $-\text{SR}^e$,
- (12) $-\text{S}(\text{O})_2\text{OR}^e$,
- (13) $-\text{S}(\text{O})_m\text{N}\text{R}^e\text{R}^f$,
- (14) $-\text{N}\text{R}^e\text{R}^f$,
- (15) $-\text{O}(\text{CR}^e\text{R}^f)_n\text{N}\text{R}^e\text{R}^f$,
- (16) $-\text{C}(\text{O})\text{R}^e$,
- (17) $-\text{CO}_2\text{R}^e$,
- (18) $-\text{CO}_2(\text{CR}^e\text{R}^f)_n\text{CONR}^e\text{R}^f$,
- (19) $-\text{OC}(\text{O})\text{R}^e$,
- (20) $-\text{CN}$,
- (21) $-\text{C}(\text{O})\text{N}\text{R}^e\text{R}^f$,
- (22) $-\text{N}\text{R}^e\text{C}(\text{O})\text{R}^f$,
- (23) $-\text{OC}(\text{O})\text{N}\text{R}^e\text{R}^f$,
- (24) $-\text{N}\text{R}^e\text{C}(\text{O})\text{OR}^f$,
- (25) $-\text{N}\text{R}^e\text{C}(\text{O})\text{N}\text{R}^e\text{R}^f$,
- (26) CF_3 , and
- (27) $-\text{OCF}_3$,

m is selected from 1 and 2; and

n is selected from 1, 2, and 3;

provided that when R^1 is phenyl, naphthyl, or heteroaryl, R^2 is phenyl and R^3 is hydrogen, Ar^1 is not unsubstituted phenyl and is not mono, di or tri- substituted phenyl with an R^b substituent selected

from the group consisting of halogen, hydroxy, -C 1-6 alkyl, phenyl, -CN, -NO₂, -CO₂H, -C(O)C₁₋₆alkyl, -CO₂C₁₋₆alkyl, -C(O)NH₂, -C(O)NH-heterocycloalkyl, -NH₂, -NH-heterocycloalkyl, furanyl, dihydrofuranyl, pyrrolidyl, dihydropyrrolidyl, and 1,3-dioxolan; and

provided that when R¹ is aryl, monosubstituted with halogen, -OCH₃ or -CH₃ and optionally di-substituted with halogen, R² is aryl, optionally mono- or di- substituted with halogen, and R³ is hydrogen, Ar¹ is not unsubstituted 4-pyridinyl; and

provided that when R¹ and R² are unsubstituted aryl or unsubstituted heteroaryl, and R³ is hydrogen or C 1-4 alkyl, Ar¹ is substituted with at least one R^b substituent; and

provided that when R¹ is selected from the group consisting of unsubstituted phenyl, *para*-chlorophenyl or *para*-methoxy phenyl, R² is unsubstituted phenyl, and R³ is -CH₃, Ar¹ is not unsubstituted phenyl, *ortho*-CO₂H monosubstituted phenyl, or 3,4-dimethoxy phenyl.

Claim 10 (Original): The compound according to Claim 9 wherein:
R¹ and R² are independently selected from:
(1) phenyl,
(2) naphthyl, and
(3) pyridyl,
each optionally substituted with one to four substituents independently selected from R^b;
or a pharmaceutically acceptable salt thereof.

Claim 11 (Original): The compound according to Claim 10 wherein:
Ar¹ is selected from:
(1) phenyl,
(2) naphthyl,
(3) thienyl,
(4) furanyl,
(5) pyrrolyl,
(6) oxazolyl,
(7) isoxazolyl,
(8) 1,2,5-oxadiazolyl,
(9) 1,2,5-thiadiazolyl,
(10) thiazolyl,
(11) pyrazolyl,

- (12) triazolyl,
- (13) tetrazolyl,
- (14) benzothienyl,
- (15) benzofuranyl,
- (16) benzoxazolyl,
- (17) benzimidazolyl,
- (18) benzothiazolyl,
- (19) indanyl,
- (20) indenyl,
- (21) indolyl,
- (22) imidazo[1,2-a]pyridinyl,
- (23) β -carbolinyl,
- (24) 5,6,7,8-tetrahydro- β -carbolinyl,
- (25) tetrahydronaphthyl,
- (26) 4,5,6,7-tetrahydroindazolyl,
- (27) 2,3-dihydrobenzofuranyl,
- (28) dihydrobenzopyranyl,
- (29) 1,4-benzodioxanyl,
- (30) pyridinyl,
- (31) pyrimidinyl,
- (32) pyrazinyl,
- (33) quinolinyl,
- (34) isoquinolinyl,
- (35) quinazolonyl,
- (36) quinazolinyl,
- (37) 1,8-naphthyridinyl,
- (38) 1,2,3,4-tetrahydro-1,8-naphthyridinyl,
- (39) pyrido[3,2-b]pyridinyl,
- (40) pyrazolo[2,3-a]pyrimidinyl,
- (41) pyrido[1,2-a]pyrimidinyl,
- (42) pyrido[1,2-a]pyrimidonyl,
- (43) benzopyrimidinyl,
- (44) imidazolyl, and
- (45) imidazolonyl,

each optionally substituted with one, two, or three groups independently selected from R^b;
or a pharmaceutically acceptable salt thereof.

Claim 12 (Original): The compound of claim 11 wherein:
R³ is selected from:

- (1) hydrogen, and
- (2) C₁-4alkyl,

wherein alkyl is optionally substituted with one to four substituents independently selected from R^a;
Ar¹ is selected from:

- (1) phenyl,
- (2) naphthyl,
- (3) thiaryl,
- (4) isoxazolyl,
- (5) 1,2,5-oxadiazolyl,
- (6) thiazolyl,
- (7) pyrazolyl,
- (8) triazolyl,
- (9) tetrazolyl,
- (10) benzofuranyl,
- (11) benzoxazolyl,
- (12) benzimidazolyl,
- (13) benzothiazolyl,
- (14) imidazo[1,2-a]pyridinyl,
- (15) 5,6,7,8-tetrahydro-β-carbolinyl,
- (16) 4,5,6,7-tetrahydroindazolyl,
- (17) pyridinyl,
- (18) pyrimidinyl,
- (19) pyrazinyl,
- (20) quinolinyl,
- (21) isoquinolinyl,
- (22) quinazolonyl,
- (23) quinazolinyl,
- (24) 1,8-naphthyridinyl,
- (25) 1,2,3,4-tetrahydro-1,8-naphthyridinyl,
- (26) pyrido[3,2-b]pyridinyl,
- (27) pyrazolo[2,3-a]pyrimidinyl,
- (28) pyrido[1,2-a]pyrimidinyl,
- (29) pyrido[1,2-a]pyrimidonyl,
- (30) benzopyrimidinyl,
- (31) imidazolyl, and

(32) imidazolonyl,
each optionally substituted with one, two, or three groups independently selected from R^b;
each R^a is independently selected from:

- (1) -OR^c,
- (2) halogen,
- (3) -S(O)_mR^c,
- (4) -SR^c,
- (5) -S(O)₂OR^c,
- (6) -S(O)_mNR^cR^d,
- (7) -NRC₂R^d,
- (8) -C(O)R^c,
- (9) -CO₂R^c,
- (10) -CN,
- (11) -C(O)NRC₂R^d,
- (12) CF₃,
- (13) -OCF₃,
- (14) C₃₋₈cycloalkyl,
- (15) cycloheteroalkyl, and
- (16) oxo;

each R^b is independently selected from:

- (1) R^a,
- (2) C₁₋₁₀alkyl,
- (3) cycloheteroalkyl,
- (4) aryl,
- (5) arylC₁₋₄alkyl,
- (6) heteroaryl, and
- (7) heteroarylC₁₋₄alkyl,

wherein alkyl, cycloalkyl, cycloheteroalkyl, heteroaryl are optionally substituted with oxo, and wherein aryl and heteroaryl are optionally substituted with -OR^c, NRC₂R^d, or -C(O)R^c;

R^c and R^d are independently selected from:

- (1) hydrogen,
- (2) C₁₋₁₀alkyl,
- (3) cycloalkyl,
- (4) cycloheteroalkyl,
- (5) aryl,
- (6) heteroaryl, or

R^c and R^d together with the atom(s) to which they are attached form a heterocyclic ring of 4 to 7 members containing 0-2 additional heteroatoms independently selected from oxygen, sulfur and N- R_g , or two $-OR^c$ groups together with the atom(s) to which they are attached form a heterocyclic ring of 4 to 7 members containing 0-2 additional heteroatoms independently selected from oxygen, sulfur and N- R_g ,
each R^c and R^d may be unsubstituted or substituted with one to three substituents selected from R^h ; or a pharmaceutically acceptable salt thereof.

Claim 13 (Original): The compound according to Claim 12, wherein:
 R^1 and R^2 are independently selected from:

- (1) phenyl, and
- (2) pyridyl,

each optionally substituted with one to four substituents independently selected from R^b ;
 R^3 is C_{1-4} alkyl, wherein alkyl is optionally substituted with one to four substituents independently selected from R^a ;

each R^a is independently selected from:

- (1) $-OR^c$,
- (2) halogen,
- (3) $-S(O)_mR^c$,
- (4) $-NRC^dR^d$,
- (5) $-C(O)R^c$,
- (6) $-CO_2R^c$, and
- (7) oxo;

or a pharmaceutically acceptable salt thereof.

Claim 14 (Original): The compound according to Claim 13, wherein:
 R^1 and R^2 are independently selected from:

- (1) phenyl,
- (2) 4-fluorophenyl,
- (3) 2-chlorophenyl,
- (4) 3-chlorophenyl,
- (5) 4-chlorophenyl,
- (6) 4-cyanophenyl,
- (7) 4-methylphenyl,
- (8) 4-isopropylphenyl,
- (9) 4-biphenyl,
- (10) 4-bromophenyl,
- (11) 4-iodophenyl,

(12) 2,4-dichlorophenyl, and
(13) 2-chloro-4-fluorophenyl;
or a pharmaceutically acceptable salt thereof.

Claim 15 (Original): The compound according to Claim 14 wherein:
R¹ and R² are independently selected from phenyl and 4-chlorophenyl;
R³ is methyl, wherein methyl is optionally substituted with one to three substituents independently selected from R^a;
or a pharmaceutically acceptable salt thereof.

Claim 16 (Original): A composition comprising a compound according to Claim 1 and a pharmaceutically acceptable carrier.

Claim 17 (Original): A composition comprising a compound according to Claim 8 and a pharmaceutically acceptable carrier.

Claim 18 (Original): A method of preventing obesity in a person at risk for obesity comprising administration to said person of about 0.001 to about 100 mg/kg of a compound according to Claim 1.

Claim 19 (Original): A method of preventing obesity in a person at risk for obesity comprising administration to said person of about 0.001 to about 100 mg/kg of a compound according to Claim 8.

Claim 20 (Original): A method of treating a disease mediated by the Cannabinoid-1 receptor comprising administration of a therapeutically effective amount of a compound of Claim 1 to a patient in need of such treatment.

Claim 21 (Original): The method according to Claim 20 wherein the disease mediated by the Cannabinoid-1 receptor is selected from: psychosis, memory deficit, cognitive disorders, migraine, neuropathy, neuro-inflammatory disorders, cerebral vascular accidents, head trauma, anxiety disorders, stress, epilepsy, Parkinson's disease, schizophrenia, substance abuse disorders, constipation, chronic intestinal pseudo-obstruction, cirrhosis of the liver, asthma, obesity, and other eating disorders associated with excessive food intake.

Claim 22 (Original): The method according to Claim 21 wherein the disease mediated by the Cannabinoid-1 receptor is an eating disorder associated with excessive food intake.

Claim 23 (Original): The method according to Claim 22 wherein the eating disorder associated with excessive food intake is selected from obesity, bulimia nervosa, and compulsive eating disorders.

Claim 24 (Original): The method according to Claim 23 wherein the eating disorder associated with excessive food intake is obesity.

Claims 25-30 (Cancelled).